

Application No.: 09/335,608
Attorney's Docket No.: PHB 34-257

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CLAIM AMENDMENTS

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This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (currently amended) A telecommunications system suitable for transmitting real-time data and non-real-time packet data, comprising

a first and a second communication station, and

a dual mode channel for communication of both the real-time and the non-real-time data from the first to the second station,

wherein

the first station comprises a first transceiver which is operable to transmit both the real-time and the non-real-time data,

the second station comprises a second transceiver which is operable to receive the real-time and/or the non-real-time data, and

the first station further comprises a controller for generating an output data stream comprising the real-time data, the controller also allocating non-real-time packet data to the output data stream when the data rate of the real-time data is less than the full data capacity of the dual mode channel, which output data stream is transmitted by the transceiver over the channel,

wherein for at least part of the output stream the real time and non-real-time packet data each have a respective non-zero minimum bit rate and a combined bit rate less than a maximum value comprises both real-time data and non-real-time packet data, and

wherein the part of the output stream is a single time slot.

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2. (previously presented) A system as claimed in claim 1, wherein the real-time data comprises speech data.

3. (canceled)

4. (previously presented) A system as claimed in claim 1, wherein the first transceiver comprises a buffer for storing the non-real-time packet data for transmission during reductions in the data rate of the real-time data.

5. (previously presented) A system as claimed in claim 1, where the first station comprises a base station, and the second station comprises a mobile station of a cellular telecommunications network.

6. (previously presented) a telecommunications station for use in a system as claimed in claim 1.

7. (currently amended) A method of operating a telecommunications system suitable for transmitting real-time data and non-real-time packet data, the system comprising a first and a second communication station and having a dual mode channel for communication of both the real-time and non-real-time data from the first to the second station, the first station comprising a first transceiver which is operable to transmit both the real-time and the non-real-time data, the second station comprising a second transceiver which is operable to receive the real-time and/or non-real-time data, wherein the method comprises:

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controlling the allocation by the first transceiver of the non-real-time packet data to an output data stream comprising the real-time data when the data rate of the real-time data stream is less than the full data capacity of the dual mode channel, and

controlling the first transceiver to transmit the output data stream over the channel,
wherein, for at least part of the output stream ~~the real time and non-real time packet data each have a respective non-zero minimum bit rate and a combined bit rate less than a maximum value comprises both real time data and non-real-time packet data, and~~

wherein the part of the output stream is a single time slot.

8. (cancelled)

9. (previously presented) A method as claimed in claim 7 wherein the first station comprises a buffer, characterized by storing the non-real-time packet data in the buffer for transmission during reductions in the data rate at the real-time data.

10. (cancelled)

11. (cancelled)

12. (currently amended) A method of transmitting data comprising:

- allocating at least first, second, and third types of data to a single output data stream, at least the first type of data being real-time data, and at least the third type of data being non-real time packet data, the third type of data being added when the data rate of the

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first and/or second type of data is less than an expected capacity of a transmission channel; and

- transmitting the single output data stream on a single, multiple-mode channel;
- wherein at least part of the single output data stream comprises all three types of data,
and
- wherein the part of the output data stream is a single time slot.

13. (previously presented) The method of claim 12 wherein the first type of data is video and the second type of data is voice.

14. (currently amended) A CDMA transmission method comprising:

- combining data of at least two types into a single output data stream, the at least two types comprising variable rate real-time data and non-real-time data, the non-real-time data being added to the output data stream only when an expected capacity of a transmission channel is greater than the data rate of the real-time data;
- encoding the combined data using a single spreading code, so that the combined data occupies a single transmission channel; and
- transmitting the encoded data on ~~a~~ the single transmission channel
- wherein for at least part of the output stream, the real time and non-real time packet data each have a respective non-zero minimum bit rate and a combined bit rate less than a maximum value; and comprises both real time data and non-real-time packet data, and

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- wherein the part of the output stream ~~is a single time slot~~ constitutes a frame defining a single transmission.

15. (currently amended) A receiving method comprising:

- receiving a combined data stream comprising both real-time data and non-real-time packet data in a single time slot from a transmission channel;
- demodulating the data stream;
- reading ~~the one~~ frame header to determine which frames ~~part of the time slot contain contains~~ packet data and which frames ~~part of the time slot contain contains~~ speech data;
- reconstituting the speech data and the packet data;
- providing the speech data to a speech decoder; and
- providing a speech output signal and a packet data output signal at distinct output devices;
- ~~wherein the header indicates both the packet data and the speech data being in a single dual mode channel.~~

16. (currently amended) A TDMA transmission method comprising:

- accumulating non-real-time packet data;
- allocating real-time data to an output data stream;
- determining when the real-time data does not require the full capacity of a transmission channel;
- allocating the non-real-time packet data to the output stream, when the real-time data does not require the full capacity; and
- allocating output data stream to a channel that occupies more than one time slot in a transmission time frame,
- wherein at least one single time slot comprises both real-time data and non-real-time packet data.

17. (currently amended) A TDMA transmission method comprising:

- accumulating-allocating non-real-time packet data;
- allocating real-time data and the non-real-time packet data in variable proportions to multiple time segments slots within a transmission time frame when the real-time data does not require the full capacity of a transmission channel; wherein at least one single time slot of the transmission time frame comprises both real-time data and non-real-time packet data; and
- transmitting the transmission time frame.

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18-22. (cancelled)

23. (previously presented) A system as claimed in claim 2, wherein the first station comprises a speech coding system which prepares the speech data for transmission from a speech input, and wherein the controller receives timing information from the speech coding system indicating the timing of interruptions in the speech data stream.

24. (previously presented) A method as claimed in claim 7 wherein the real-time data comprises speech data and the first station comprises a speech coding system which prepares the speech data for transmission from a speech input, characterized by determining from the speech coding system the timing of interruptions in the speech data stream.

25. (cancelled)

26. (cancelled)

27. (currently amended) A receiving method comprising:

- receiving a combined data stream comprising both real-time data and non-real-time packet data from a single time slot from a transmission channel;

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- demodulating the data stream;
- reading at least one frame header to determine which time slots contain real-time data and which time slots contain non-real-time data, ~~at least one time slot containing both real-time and non-real-time data~~ which part of the time slot contains real-time data and which part of the time slot contains non-real-time data;
- reconstituting the real real-time data and the non-real-time data; and
- providing the real real-time data and the non-real-time data to distinct output devices.

28. (Currently Amended) An output data stream including both real-time and non-real-time data in a single time slot of a single dual mode channel, wherein a respective frame header in the output data stream indicates that both real-time and non-real-time data reside in the single time slot and ~~which part of each individual time segment~~ the time slot has been allocated to the speech data and which part has been allocated to the packet data.

29. (Cancelled)

30. (Currently Amended) A data stream including both real-time and non-real-time data in a single time slot of a single dual mode channel, wherein a respective frame header in the output data stream indicates that both real-time and non-real-time data reside in the single time slot and

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which part of each individual time segment the time slot has been allocated to the speech data
and which part has been allocated to the packet data.

31-36 (Cancelled)